

ROTO-FAB®

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2019-up Chevy Silverado / GMC Sierra 1500 Cold Air Intake Installation Instructions

For part #
10161078
10161080

2019-up Chevy Silverado / GMC Sierra 1500 Cold Air Intake System Parts List

IMPORTANT- The air straightener is precisely located in the MAF housing and is not servicable. Never tamper with the four buttonhead screws retaining it. Tampering will result in poor performance and void the warranty.



Component

Qty.

1) Air box assembly	1
2) MAF sensor housing	1
3) Inlet elbow	1
4) Air filter	1
5) 4.25" hump hose coupler	1
6) 3.375" - 4.25" step hose coupler	1
7) MAF Housing mounting flange	1
8) 100-120 mm hose clamps	3
9) 80-100 mm hose clamp	1
10) 10-32 x 5/8" philips screws	5
11) M4 SS philips MAF sensor screws	2
12) Breather fitting adapter	1
13) 1/2 NPT x 5/8 Hose 90 degree fitting	1
14) 5/8" ID Silicone tubing	1
15) Foam inlet seal	1
16) M6 Serrated locking nuts	2
17) M6 Nylock nuts	2
18) M6 Flat washers	2
19) M6 Nut with free-spinning washer	1
20) M6 x 20mm Bolt	1
21) Stud plate for rear bracket	1
22) Rear mounting bracket	1
23) Push fastener	1

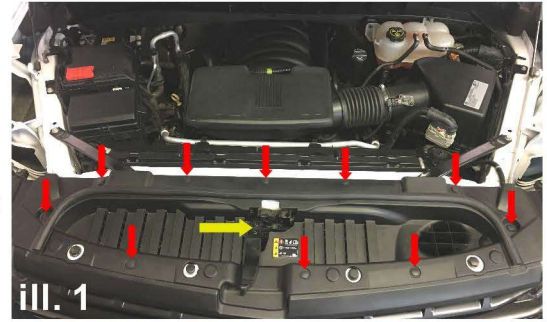
Tools/items needed

7 MM socket
8 MM socket
10 MM deep socket
Extension for socket
T15 torx bit
Small flat screwdriver
Philips screwdriver
Pry tool

This product has not been CARB tested

Before you begin, disconnect the negative battery terminal from the post with a 10 mm socket. Retain the terminal away from the post so there is no chance of contact between the terminal and post. Keep battery disconnected for the entire CAI installation process.

Using a T15 Torx driver, remove the 2 screws pointed out in yellow on ill. 1. Pull the plastic hood latch extension straight forward to remove.



Use a straight blade screw driver to pry up on the center pin of the 10 fasteners pointed out in red on ill. 1. The center pin does not need to come all the way out. With the center pin raised to the height shown in ill. 2, gently pry from under the body of the fastener to remove. After all 10 fasteners have been removed, lift straight upward to remove the upper air inlet shroud from the vehicle.



Remove the push fastener retaining the air inlet duct to the core support. Pull the air inlet duct upward and toward the center of the vehicle to the position shown in ill. 3.



Using an 8mm socket and extension, loosen the hose clamp at the throttle body and the clamp at the air box end of the inlet elbow. See ill. 4



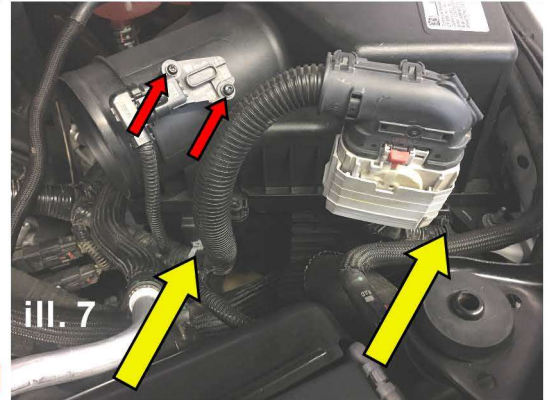
To disconnect the breather tube from the stock inlet elbow assembly, fully depress the gray release button while first pushing inward slightly, then straight rearward to disengage. See ill. 5

Disengage the bellows connecting the inlet elbow assembly to the air box. Rotate the inlet elbow assembly as shown in ill. 6. Note the inlet elbow is still connected to its retaining bracket. With the elbow still in the vertical position, push the inlet elbow assembly straight away from the centerline of the motor - towards the right (passengers) side fender to disengage the retaining pin on the mounting bracket. Remove air inlet elbow assembly from the vehicle. See ill. 6



NOTE: During the next steps you will not disconnect the wiring harness from the MAF sensor. It will remain plugged in through the entire dissassembly and assembly process.

Use a pry tool to disengage the gray loom holder and black loom holder pointed out with the yellow arrows in ill. 7. Lift upward on the large gray/black wiring harness connector to disengage from the air box.



Using a T15 Torx driver, remove the 2 screws retaining the MAF sensor, pointed out with red arrows in ill. 7. **The Stock MAF screws will not be reused with the Roto-fab CAI.** Gently slide the sensor straight outward and allow it to rest away from the air box. **Do not allow anything to contact and or penetrate the blade portion of the sensor.**

Use a 10mm deep socket and extension to remove the air box retaining nut from the mounting stud as shown in ill. 8.

While removing the air box, be careful not to put stress on any of the wiring harnesses or coolant lines. Double check to make sure the air inlet duct is disengaged from the air box and positioned as shown in ill. 3.



Lift up on the air box while pulling it toward the front of the vehicle to disengage the rear dowels. Be sure the rear dowels clear all harnesses and coolant lines. Completely remove air box assembly from the vehicle.

Roto-fab CAI Assembly / Installation:

Locate the #1 air box, #2 MAF sensor housing, #7 air box flange, and #10 10-32x5/8" Phillips screws qty. 5

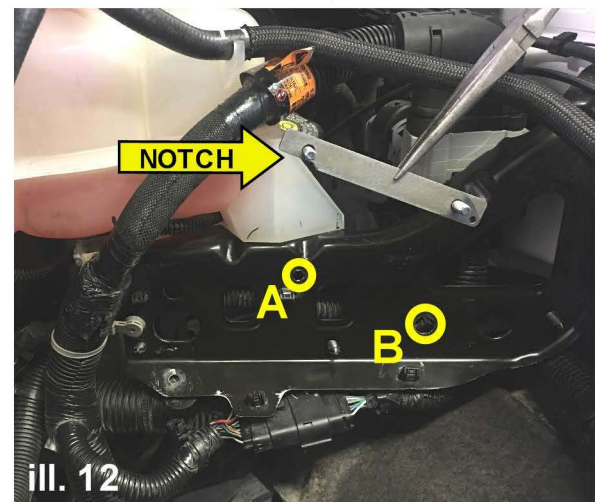
Using a phillips screwdriver, loosen the air box lid retaining screw and open the lid. With the MAF housing inside the air box, insert the small end of the MAF housing into the large round hole into the air box. Rotate the MAF housing so the MAF sensor mounting block is in approximately the 2 o'clock position as viewed from the angle pictured in ill. 9. Slide the #7 air box flange over the MAF housing with the flat section of the flange positioned at the bottom. Align the flange mounting holes with the air box mounting holes and the brass inserts in the MAF sensor housing. Insert one of the #10 phillips screws through the flange and air box, then start the screw into the aligned brass insert. Be sure the MAF sensor mounting block is positioned as shown in ill. 9. Without tightening any of the screws, start the remaining 4 screws in the same manner. Then tighten all 5 screws.



Locate the #5 hump hose coupler and one of the #8 100-120mm hose clamps. Slide the hose clamp over the end of the MAF sensor housing, then fully engage the hump hose onto the MAF housing. Locate the hose clamp as shown in ill. 10. **NOTE: For all hose coupler connections, be sure the clamp is fully within the silicone hose material. By having silicone on both sides of the hose clamp, the tightening action slightly compresses the silicone - the material on each side of the clamp helps ensure the clamp won't work its way off.** Tighten the hose clamp. Do not overtighten.



Using a 10mm socket, remove the bolt shown in ill. 11. Locate the two #16 serrated flange nuts (silver in color), #21 stud plate, and #22 rear mounting bracket. Note the stud plate is notched near one of the studs. The stud plate will install from the back side under the coolant reservoir through the holes labeled "A" and "B" in ill. 12. The notch in the stud plate will be at the bottom to clear the loom holder attached under hole A. The threaded stud will be facing toward the front of the vehicle. Hold the stud plate in position from the back side while aligning the #22 rear mounting bracket to allow the studs to pass through the small holes in the bracket. It will help to have a #16 silver serrated nut in hand during this process. Start the nut on one of the studs. Start the remaining #16 nut on the other stud. **Do not tighten at this time.**



Locate the #20 M6x20mm bolt. This will replace the stock bolt previously removed. The bolt must pass through the rear mounting bracket, through the coolant reservoir bracket, and into the threaded insert which is attached to the crossmember underneath. You will need to reach under to align the lower threaded insert while starting the bolt. See ill. 13

Using a 10mm socket, snug both #16 nuts and the #20 bolt. Then tighten all 3 securely. The loom holder which was attached to the stock bolt can now be pushed onto the threads of the #20 bolt.



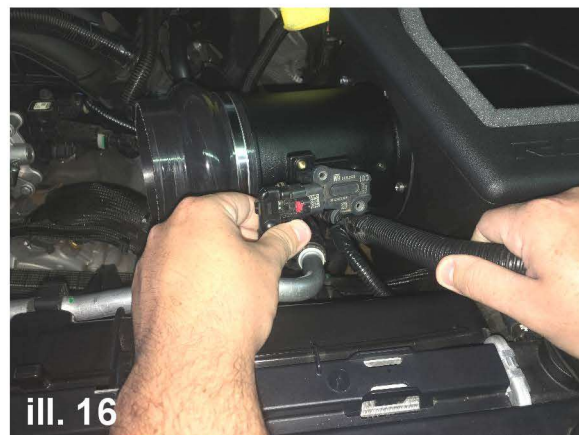
The next step is shown outside of the vehicle for clarity, but the duct does **not** need to be removed. Locate the #15 foam seal and remove the protective paper backing. With the foam seal at the bottom of the duct and both sides sticking out at equal lengths, stick the bottom first and work your way around the duct and to the top. The foam seal should stick on the flat just after the first barb on the inlet duct. See ill. 14.



To protect the air box lid during installation, drape a shop rag over the coolant reservoir and rubber coolant lines. With the air box lid open, begin to drop the air box into location. Be sure the large gray/black electrical connector stays to the top side. Before engaging the air box onto any of the 3 mounting studs, reach in the air box and pull the air inlet duct into the front of the air box inlet opening. See ill. 15. The duct **must** be fully engaged into the air box for proper fitment. Next, lower the air box onto the front mounting stud first, then align and engage the 2 rear mounting studs.



Locate the #18 flat washers and #17 black nylock nuts. These will be used inside the air box on the rear mounting studs. Place a washer on each rear stud, then start a nut on each stud. Next, locate the #19 M6 flanged nut. To avoid dropping the nut, we recommend laying a piece of paper over the nut, then engaging the 10mm deep socket over the nut. This will hold the nut securely in the socket during installation. Install the nut on the front mounting stud and tighten securely. Tighten the rear nylock nuts until snug with the washer and air box, then 1/2 turn.



DO NOT ATTEMPT TO RE-USE FACTORY MAF SCREWS

To install the MAF sensor, gently pull on the main harness as shown while installing the sensor in the MAF slot. See ill. 16. Once the sensor is inserted into the MAF housing, the tension on the harness is relieved. Locate the 2 #11 M4 MAF sensor screws. With the sensor in position, align and start screws. Use a phillips screwdriver to tighten securely.

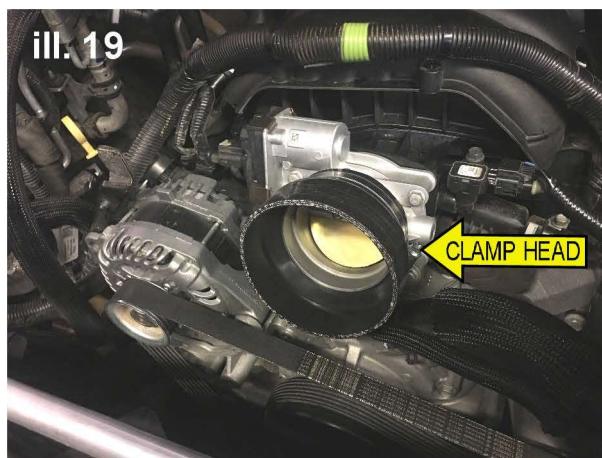


Standing in front of the vehicle, use your left hand to reach under the MAF sensor housing to engage the gray loom holer into the 1/4 " hole on air box just below MAF housing. Push firmly to engage as much as possible. See ill. 17

After the loom holder is secured to the air box, slide the large gray/black harness connector onto the harness bracket at the front of your air box. The harness connector has a slot in the back that will fully engage the bracket at the front of the air box. See ill. 18.



Locate the #6 step hose coupler and the #9 hose clamp. This is the smallest of the remaining hose clamps. Fully engage the hose coupler and clamp onto the throttle body. Fully engage the clamp on the silicone as explained in red on page 4. Position the clamp head as shown in ill. 19. Tighten the clamp. Do not overtighten.



Locate the remaining 2 #8 hose clamps. With the clamp head oriented the same way as the previously installed clamp, slide clamp over the open end of the throttle body step hose. Slide the other clamp over the open end of the hump hose at the MAF housing. Again, be sure the clamp head is positioned the same as the previously installed clamp.

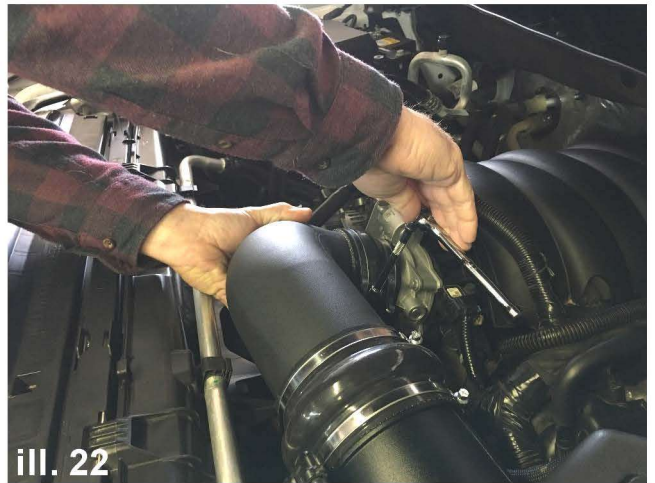
Locate the #12 breather fitting adapter, #13 90 degree hose fitting, and #14 5/8" ID hose. Align as shown in ill. 20. Note the ends with the hose barb will engage the hose. Engage the barbed end of the breather adapter until the hose touches the machined hose stop. Next, engage the opposite side of the hose onto the 90 degree fitting until the hose touches the stop. No clamps are required for these joints.



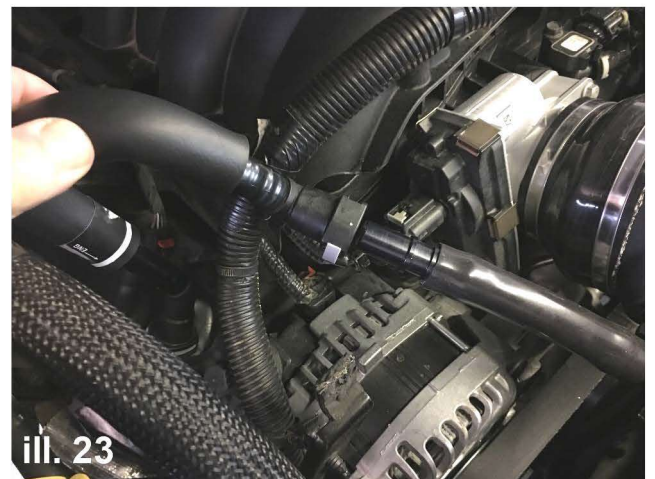
Locate the #3 inlet elbow. Install the threaded end of the 90 degree fitting into the threaded fitting on the inlet elbow. Tighten by hand until snug, then tighten at least one full rotation aligning the breather assembly with the mark on the inlet elbow as shown in ill. 21. The pipe thread connection should not bottom out, but will create an effective seal when tightened correctly.



Install the air inlet elbow assembly by first engaging the straight end into the hump hose on the MAF sensor housing until the opposite end of the elbow is approximately in line with the throttle body step hose coupler. Rotate the inlet elbow downward, then fully engage the step hose coupler. Slide the hose clamp onto the large end of the step hose and align clamp head with the clamp on the throttle body. Use a 7mm socket to get the clamp just tight enough to hold it in position. Do the same with the clamp on the opposite end of the inlet elbow. Be sure you have silicone exposed on both sides of the hose clamp as described in red on page 4. Next, look at the horizontal alignment of the inlet elbow to the MAF housing. Position the elbow to achieve optimal alignment. Tighten the clamp on the throttle body end first while pushing inward as shown in ill. 22. Next, tighten the the clamp on the opposite end of the inlet elbow. Do not overtighten.



Connect the breather fitting to the #12 breather fitting adapter. You should hear a click once fully engaged. Gently try to pull the 2 pieces outward without pushing the gray release tab to ensure the inner retainer is fully engaged.



Visually check all 4 coupler connections and hose clamp locations. Pay close attention to the bottom side of the joints as it is easy for a clamp to be positioned incorrectly at the bottom.

Locate the #4 air filter. With the filter clamp oriented as shown in ill. 24, fully engage the filter onto the MAF sensor housing. Tighten the filter clamp. Do not overtighten. Check the filter to be sure it is firmly mounted.



Close the air box lid and look under the lid to align the screw with the threaded brass insert on the air box. With the screw properly aligned, tighten the screw down to the point that the lid is approximately flush with the top side of the air box.

Re-install the push fastener retaining the stock air inlet duct to the core support. In the event that the original fastener was damaged, use the supplied #23 push fastener. Reinstall the upper air inlet shroud and hood latch extension.

Congratulations, your Roto-fab CAI install is now complete!



All clamps should be checked for tightness after a few drive cycles and periodically thereafter. Inspect hose clamps for tightness at each oil change. Inspect the filter approximately every third oil change - more often in dusty regions. Service the filter as necessary using the proper service kit. Filter service kits are available at roto-fab.com

Customer feedback and reviews have always been our greatest marketing asset. Please share your experience with us!

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